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(54) PRODUCTION OF HIGH-STRENGTH CARBON FIBER

(57) Abstract:

PURPOSE: To readily obtain carbon fiber of high-strength and high-adhesiveness with low cost and safety by anodizing carbon fiber obtained by baking acrylic fiber having specific lightness difference in an aqueous solution of electrolyte containing nitrate ion.

CONSTITUTION: An acrylic fiber having ≥ 60 lightness difference by iodine-adsorbing method (prefer-

ably containing 90-97wt.% acrylonitrile) is baked (preferably made to flame-resistant in oxidative atmosphere at 200-400°C and carbonized in inert atmosphere at 1200-1400°C) and resultant carbon fiber is anodized (preferably with 30-400 coulomb/g at 30-80°C for 0.1-3 min) in an aqueous solution containing nitrate ion (preferably 1-10 N concentration of nitric acid), then heat-treated (preferably in reducing atmosphere at 300-700°C) to afford a carbon fiber of high-strength.

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